Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A positioning stage system, comprising:

a support platform;

an X-direction linear motor and a Y-direction linear motor;

an X-member coupled to the X-direction linear motor and to the support platform to move the support platform in an X-direction along a Y-member, wherein the Y-member is coupled to the Y-direction linear motor and to the support platform to move the support platform in a Y-direction along the X-member; and

a slide attached to the support platform and slidably engaged with the X-member and the Y-member, wherein the slide, X-member, and Y-member are configured to substantially support the weight of the support platform,

characterized in that the support platform is configured to slide directly on the X-member in the Y-direction and configured to slide directly on the Y-member in the X-direction.

2. (Original) The positioning stage system of claim 1, wherein the X-direction linear motor comprises a magnet track and a coil member.

3. (Original) The positioning stage system of claim 2, wherein the magnet track is stationary and attached to a frame.

4. (Original) The positioning stage system of claim 3, wherein the coil member is attached to the X-member and slidably engaged with the stationary track.

5. (Original) The positioning stage system of claim 1, wherein the Y-direction linear motor comprises a magnet track and a coil member.

6. (Original) The positioning stage system of claim 5, wherein the magnet track is stationary and attached to a frame.

7. (Original) The positioning stage system of claim 6, wherein the coil member is attached to the Y-member and slidably engaged with the stationary track.

8. (Original) The positioning stage system of claim 1, further comprising a reaction force canceling system for reducing reaction forces produced by the linear motors.

9. (Original) The positioning stage system of claim 8, wherein the reaction force canceling system comprises one or more rods movably attached to a frame and connected to a grounding block.

10. (Original) The positioning stage system of claim 1 further comprising a countermass device.

11. (Original) The positioning stage system of claim 1, further comprising a guide member extending in the Y-direction.

12. (Original) The positioning stage system of claim 11, wherein the Y-member comprises an end portion with an opening, the guide member extending through the opening of the Y-member.

13. (Original) The positioning stage system of claim 11, wherein the Y-member comprises two end portions each with an opening and the guide member comprises two generally parallel shafts each extending through one of the openings.

14. (Original) The positioning stage system of claim 11, wherein the guide member is disposed between the support platform and the Y-direction linear motor.

15. (Original) The positioning stage system of claim 1, wherein the slide comprises an opening adapted to slidably receive the X-member.

16. (Original) The positioning stage system of claim 1, wherein the slide is in slidable engagement with the Y-member.

17. (Original) The positioning stage system of claim 1, wherein the support platform, slide, X-member and Y-member comprise non-magnetic materials.

18. (Original) The positioning stage system of claim 17, wherein the non-magnetic materials comprise materials selected from the group consisting of ceramics, plastics, carbon fiber, and combinations thereof.

19. (Original) The positioning stage system of claim 1, further comprising an interferometer.

20. (Original) The positioning stage system of claim 1, wherein the support platform and the slide are disposed in an interior region of the positioning stage system.

21. (Original) The positioning stage system of claim 1, wherein the Y-direction linear motor is disposed in a peripheral region of the positioning stage system.

22. (Currently Amended) An electron beam lithography system, comprising:

an electron beam source for generating a beam of electrons;

electron beam lenses operable to focus the beam onto a surface of an article;

deflectors operable to direct the beam to specific positions on the article; and

a positioning stage system for supporting and positioning the article, the positioning stage system comprising:

a support platform;

an X-direction linear motor and a Y-direction linear motor;

an X-member coupled to the X-direction linear motor and to the support platform to move the support platform in an X-direction along a Y-member, wherein the Y-member is

coupled to the Y-direction linear motor and to the support platform to move the support platform in a Y-direction along the X-member; and a slide attached to the support platform and slidably engaged with the X-member and the Y-member, wherein the slide, X-member, and Y-member are configured to substantially support the weight of the support platform,

characterized in that the support platform is configured to slide directly on the X-member in the Y-direction and configured to slide directly on the Y-member in the X-direction.

23. (Original) The electron beam lithography system of claim 22, wherein the X-direction linear motor comprises a magnet track attached to a frame and a coil member attached to the X-member and slidably engaged with the magnet track.

24. (Original) The electron beam lithography system of claim 22, wherein the Y-direction linear motor comprises a magnet track attached to a frame and a coil member attached to the Y-member and slidably engaged with the magnet track.

25. (Original) The electron beam lithography system of claim 22, further comprising a reaction force canceling system for reducing reaction forces produced by the linear motors.

26. (Original) The electron beam lithography system of claim 25, wherein the reaction force canceling system comprises one or more rods movably attached to a frame and connected to a grounding block.

27. (Original) The electron beam lithography system of claim 22 further comprising a countermass device to allow small movement of a magnet track in relation to a frame.

28. (Original) The electron beam lithography system of claim 22, wherein the support platform and the slide are disposed in an interior region of the positioning stage system and the Y-direction linear motor is disposed in a peripheral region of the positioning stage system.

29. (Original) The electron beam lithography system of claim 22, further comprising a guide member extending in the Y-direction through an opening in the Y-member.

30. (Original) The electron beam lithography system of claim 29, wherein the Y-member comprises two end portions each with an opening and the guide member comprises two generally parallel shafts each extending through one of the openings.

31. (Original) The electron beam lithography system of claim 22, wherein the slide comprises an opening adapted to slidably receive the X-member and is in slidable engagement with the Y-member.

32. (Original) The electron beam lithography system of claim 22, further comprising an interferometer.

33. (Currently Amended) A method for moving and positioning an article in an xy plane, comprising:

placing the article on a support platform, wherein the support platform is attached to a slide that is slidably engaged with an X-member and a Y-member, and the slide, X-member, and Y-member are configured to substantially support the weight of the support platform;

actuating an X-direction linear motor, wherein the X-direction linear motor is coupled to the X-member to position the support platform in an X-direction; [[and]]

actuating a Y-direction linear motor, wherein the Y-direction linear motor is coupled to the Y-member to position the support platform in a Y-direction;

sliding the support platform directly on the X-member in the Y-direction; and

sliding the support platform directly on the Y-member in the X-direction.

34. (Original) The method of claim 33, wherein the X-direction and Y-direction linear motors comprise magnet tracks and movable coil members.

35. (Previously Submitted) The method of claim 33, wherein actuating the X-direction linear motor to position the support platform in the X-direction occurs as the article is not being exposed.

36. (Previously Submitted) The method of claim 33, wherein actuating the Y-direction linear motor to position the support platform in the Y-direction occurs as the article is being exposed.

Amendments to the Drawings:

Subject to the Approval of the Examiner, please replace the drawings with the full set of replacement drawings (Figs. 1-9) filed herewith. The replacement drawings incorporate the requested changes of the Request for Approval of Drawing Changes filed July 28, 2003, which were approved by the Examiner in the final Office Action.